

DOCKET NO.: DRXI-0144  
Application No.: 10/634,335  
Office Action Dated: August 24, 2005

## REMARKS

Claims 1-18, 20-29, 31, and 34-36 are pending in this patent application. Applicant wishes to thank the Examiner for withdrawal of the previous 35 U.S.C. §112 and double patenting rejections.

### **Claim rejections under 35 U.S.C. §112, first paragraph**

Claims 1-18, 20-29, 31 and 34-36 now stand rejected under 35 U.S.C. §112, first paragraph, for allegedly lacking enablement.

Applicants respectfully request reconsideration of this rejection, because there is no reason of record to believe that those skilled in the art would not be able to practice the claimed inventions. Although the Office Action provides a lengthy analysis of certain factors to be considered in assessing whether or not undue experimentation would be required, a close inspection of the Office Action not only reveals that these factors do not support rejection of the present claims, but that any experimentation associated with practice of the claimed inventions would be routine in nature and well within the level of skill in the art.

**The nature of the invention.** The Office Action characterizes the nature of the claimed inventions, but does not identify any way in which the nature of the inventions suggests a lack of enablement. Accordingly, this factor does not indicate any lack of enablement.

**The state of the prior art.** Although the Office Action asserts that the references of record do not indicate which protective groups, activated esters, carboxyl acids, alkyl isothiocyanates, aromatic isothiocyanates, and leaving groups are useful with the claimed inventions, such a situation (even if true) falls far short of demonstrating any lack of enablement. The relevant inquiry for enablement is not whether the prior art demonstrates utility of a claimed invention, but whether the prior art demonstrates that those of ordinary skill would be unable to practice that invention without undue experimentation. Since the Office Action fails to identify any prior publication indicating that those skilled in the art would not be able to practice the claimed inventions, the “state of the prior art” factor does not support rejection for alleged lack of enablement. MPEP § 2164.04; *In re Wright*, 27 U.S.P.Q.2d 1510, 1513 (Fed. Cir. 1993) (to object to a specification as not enabling,

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examiner must provide evidence or technical reasoning substantiating any doubts as to whether claim is adequately enabled).

**The level of one of ordinary skill in the art.** As acknowledged in the Office Action, the level of skill in the relevant art is high. Thus, those skilled in the art would be expected, absent evidence to the contrary, to be able to practice the claimed inventions. Even acknowledging that the claimed inventions encompass a large number of protective groups, activated esters, carboxyl acids, alkyl isothiocyanates, aromatic isothiocyanates, and leaving groups, there is no evidence to suggest that a skilled artisan would be unable identify and select suitable groups for use in practicing the claimed inventions. Furthermore, one skilled in the art will appreciate, for example, that not all protecting groups are universally desirable in every application. The choice of using one over another will naturally depend on the chosen synthetic approach, or by the nature of the substance to be attached to the bifunctional chelator. Nor is it uncommon during synthesis to recognize the necessity of replacing one protective group by another. These and other considerations are well within the knowledge of a skilled artisan. Absent evidence to the contrary, the "relative skill in the art" factor supports Applicants' position that the pending claims are enabled within the meaning of §112.

**Level of predictability in the art.** There is no evidence of record indicating that the state of the art is so unpredictable that undue experimentation would be needed to practice the claimed inventions. Although the Office Action asserts that "the art pertaining to chelating moieties containing protective groups, activated esters, carboxyl acids, alkyl isothiocyanates, aromatic isothiocyanates, and/or leaving groups is highly unpredictable" (Office Action at 4), no supporting evidence is cited. On the contrary, the art of metal chelators is actually quite predictable. For example, it is widely established that the effectiveness of a chelating agent is not affected by the choice of protecting groups, since the protecting group will be removed prior to the formation of a complex with a metal. As for another example regarding activating groups (such as isothiocyanates and activated ester), their purpose is to provide chemical means to attach the chelating agent (*i.e.* a chelator) to a substance (such as peptides, proteins, or antibodies) that possesses biological properties. The residue in the molecule containing the activated group is called linker and has no influence on the chelating property of the chelator residue. Normally, the stability of bifunctional chelator-metal complexes is evaluated prior to

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forming the conjugates. Furthermore, there are citations in the scientific literature where metal-bifunctional chelator complexes are formed prior to being attached to the biologically active substance. Therefore, this art, contrary to the Office Action's assertion, is not unpredictable.

In any event, without supporting evidence, the bare assertion that the art is unpredictable does not demonstrate any lack of enablement. Although those skilled in the art arguably might be able to predict which of the claimed compounds is the most effective, there is no evidence of record establishing that the field of metal chelators is so unpredictable that those skilled in the art would not be able to practice the claimed inventions. In fact, the Office Action fails to identify any references reflecting the state of the art relating to metal chelators, much less references supporting the recited allegations of unpredictability.

**The amount of direction or guidance present.** Although the Office Action takes issue with the amount of guidance provided in the specification and speculates that the guidance provided would be insufficient, the Office Action fails to provide any evidence demonstrating that those skilled in the art having the specification before them would not be able to practice the claimed inventions. The guidance provided by Applicant is significant and substantial. There are numerous representative working examples throughout the specification to aid a skilled artisan in practicing the inventions. The very terms the Examiner takes issue with are either explicitly defined in the specification (see Specification, page 7, defining "protective group" and "activated esters") or are so well-known by one skilled in the art, such as, for example, in the field of organic chemistry where the terms are common, that definition is unnecessary. Absent some evidence indicating that those skilled in the art, having read Applicant's specification, would not be able to practice the claimed inventions, there is no reason to believe that the specification is insufficient within the meaning of §112.

**Existence of working examples.** The Office Action fails to provide any evidence that the number of working examples provided in the specification would be insufficient for those skilled in the art to practice the claimed inventions. Even though it is well-established that an applicant need not include any working examples demonstrating a claimed invention, *In re Fouche*, 169 U.S.P.Q. 429, 434 (C.C.P.A. 1971), Applicant's specification describes the

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synthesis of thirty-three representative compounds. As such, the quantity and quality of the working examples point toward enablement.

**Breadth of claims.** There is no evidence of record indicating that the claims are so broad that those skilled in the art would not be able to practice the claimed inventions. Even though the claims include a number of possible protective groups, activated esters, carboxyl acids, alkyl isothiocyanates, aromatic isothiocyanates, and leaving groups, one skilled in the art would be able to select among these groups and produce useful metal chelators, as part of the claimed inventions. As such, the breadth of the claims would not present any hindrance to the art-skilled in practicing Applicant's claimed inventions.

**Quantity of experimentation needed to make or use the invention based on the content of the disclosure.** The Office Action fails to identify any evidence that the quantity of experimentation needed to practice the claimed inventions would be undue. The Office Action's unsupported and/or incorrect contentions as to the scope and unpredictability of the claimed inventions and alleged difficulties that those skilled in the art would encounter in practicing the claimed inventions simply do not constitute evidence or technical reasoning of the sort required to substantiate allegations, under 35 U.S.C. §112, first paragraph, that there is a lack of enablement. Absent such a showing, there is no reason to believe that those skilled in the art reading Applicant's disclosure would not have been able to make and use the claimed compounds and methods. Accordingly, the rejection of claims 1-18, 20-29, 31 and 34-36 for alleged lack of enablement is improper and should be withdrawn.

#### **Claim rejections under 35 U.S.C. §112, second paragraph**

Claims 1-18, 20-29, 31 and 34-36 are rejected as allegedly ambiguous for the recitation of the terms "protective groups," "activated esters," "carboxylic acids," "alkyl isothiocyanate," "aromatic isothiocyanate," and "leaving groups". The definiteness of claim language must be analyzed, not in a vacuum, but in light of the content of the particular application disclosure and the claim interpretation that would be given by one possessing the ordinary level of skill in the art. *In re Marosi*, 710 F.2d 799 (Fed. Cir. 1983), MPEP § 2171 at 2100-144. Each of these terms is either adequately and clearly defined in Applicant's specification, at for example, page 7, or so common in the art that a definition is not necessary for a complete understanding. Thus, it is respectfully submitted that those skilled

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in the art would have no difficulty understanding the metes and bounds of Applicant's claims in light of the specification's disclosures. As such, Applicant requests withdrawal of this rejection.

Claims 26-29, 31, and 34-36 are also rejected under 35 U.S.C. §112, second paragraph. Although the Office Action asserts that claims 26-29, 31, and 34-36 are indefinite because it is not clear what methods are being claimed, one skilled in the art would have no difficulty in determining the claims' scope. The preamble of each of claims 26-29, 31, and 34-36 reflects the scope of claims, namely that the claims are directed to methods of administering or detecting compounds of independent claims 1, 9, or 16 complexed to radionucleotides, or methods of administering and detecting compounds of independent claims 1, 9 or 16 complexed to radionucleotides to an animal in need thereof. Applicant is not required to further limit the scope of its method claims. Since one of ordinary skill in the art would have no difficulty understanding the metes and bounds of Applicant's claims in light of the specification's disclosures, and no contrary evidence or reasoning has been advanced, Applicants respectfully request reconsideration and withdrawal of this rejection.

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### **CONCLUSION**

The foregoing represents a *bona fide* attempt to advance the present case to allowance. Applicants submit that this application is in condition for allowance. As such, an early Notice of Allowance is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, she is invited to call the undersigned at the telephone number listed below.

Date: November 23, 2005

  
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